Human Capital Measurement: Earnings Theory of Capitalization Approach

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Abstract

Human Capital/Asset assessment has always been a point of interest in research. Its estimation leads to evaluate the overall capitalization of a firm, which in turn, is important for the calculation of the weighted average cost of capital (WACC). Weighted average cost of capital is used to calculate the economic value added of the firm, EVA measures the increase/decrease in the shareholders fund. Therefore, human capital assessment goes far into assessing financial status of the organization. Human capital assessment also helps in estimating cost and productivity of human assets. In this paper, the cost theory of capitalization has been used to calculate the value of human assets.

Key Words: Economic Value Added (EVA), Human Capital (HC), Human Capital Management (HCM),Weighted Average Cost of Capital (WACC).

Human Capital Management (HCM) and Human Capital (HC):

Human capital is defined as embodied knowledge, skills, abilities, and other attributes of employees that can be put to productive use (Rhett Brymer, Janice Molloy, Clint Chadwick, 2015). Effective human capital management, which includes attraction, development, deployment and inimitability, is crucial to increase organizational performance (Hatch & Dyer, 2004). According to Schultz(1960), human capital is defined as employees' explicit and implicit knowledge and abilities which led to organizational competitiveness. Lynn (2000), stated that human capital is formed through employees' skills, knowledge and experience.

Write and Snell (1991) and Thite (2004), stated that human capital investment by organizations enables employees to achieve organizational goals. Kaplan and Norton (2004) & Ulrich and Smallwood (2004) proposed that on the job training, leadership training, individual development, and career planning are important for human capital development.

Ready, Hill and Conger (2008), observed that challengeable tasks, training, and a forseeable career path are conducive to organizational development, which drives employees to achieve their long term goals. Becker (1962) and Ready et al. (2008) proposed that wages and corporate culture are key factors in retaining valuable employees.

In addition to the traditional, personnel and human resource management(HRM), there is a need for a new approach to personnel management, which we will call Human Capital Management(HCM). HCM emphasizes an alignment between the individual and the organization and in our view offers the challenge and the key to successful management in the future (Marcell van Marrewijk & Joanna Timmers, 2003).

Theories of Capitalization:

There are two important theories which act as guidelines for determining the amount of capitalization.

Cost Theory Approach:

This approach suggests that the amount of capitalization for a firm depends on the total amount invested in assets. This investment puts more stress on the current investment, whereas, it should be subject to incorporate changes required in the light of changing conditions. The total investment made by the firm is in the area of fixed assets, current assets and a part of miscellaneous expenditure which includes promotional and organizational expenses. This total investment decides the total amount of capitalization required by the firm. This approach fails to highlight the earning potentials of the assets, as they are recorded at their original costs and fail to reflect the amount at which they should have been acquired in the light of their earning potentials. As a result, if they are purchased at inflated prices, it will adversely affect their earnings potentials and finally will ultimately lead to the situation of over capitalization. (Satish M. Inamdar, Financial Management, Everest Publishing House, 5th Revised Edition, p 27).

Earnings Theory Approach:

Earnings theory approach suggests that the future earnings of a company is capitalized at the appropriate capitalization rate to arrive at the amount of capitalization for the firm. (Satish M. Inamdar, Financial Management, Everest Publishing House, 5th Revised Edition, pp 27-28).

In context of capitalizing human capital a modified way is suggested in this paper, which has been discussed in the following paragraph.

Measuring Human Capital - Earnings Theory:

Fixed assets contribute to profitability and current assets are important for the maintenance of liquidity in the firm. Profitability is a combined result of both fixed assets and human assets. Therefore, like equity share capital and preference share capital, there should be human capital also. The basic idea is to divide the profitability over fixed assets and human assets on the basis of their respective costs . The traces of costs can be obtained from the Profit and Loss Statement of Tata Steel (integrated), 2020- 2021. Then the Gordan's model of valuing equity share has been applied to calculate the amount of human capital I.e.,

Gordon's Constant Growth Model:

Gordon's model is used to calculate the present value (current price) of the equity share with a required rate of return, which is the expectation of the shareholders, at a constant growth rate each year.

VE = D1/r-g,

Where,

VE = Current value of an equity share

D1 = Expected dividend payment at the end of year 1.

r = required rate of return/ discounting rate

g = constant growth rate in dividend.

(Source: Bhabatosh Banerjee, Fundamentals of Financial Management, PHI Learning Pvt. Ltd., ISBN-978-81-203-3606-3, Third Printing, p 84).

Applying the Gordon's Constant growth Model for calculating human capital :

The same formula can be used in the case of finding out the present value of human capital as well.

Hc = Earnings (at the year end)/r-g

Where,

Hc = Human Capital

$D_{1,}$ = Earnings (at the year end) = profit proportion allotted to human capital on the basis of its contribution ratio.

r = required rate of return/discounting rate; here, it is considered as employee benefit cost to profit ratio of TATA STEEL considered as an industry average.

g = constant growth rate in profitability, which can be linked to the growth rate in GDP,

Table 1.Extracts from Profit and Loss Statement of Tata Steel (integrated) 2020-21

Particulars	Amount (Rs Cr)
Revenue from operations	64,869.00
Total expenditure before finance cost, depreciation (net of expenditure transferred to capital)	43103.65
Operating Profit	21,765.35
Add: other income	637.89
Profit before finance cost, depreciation, exceptional items and tax	22403.24

Source :Annual report, Tata Steel (integrated), 2020-2021, p. 251.

Table 2. Cost Statement (derived from P& L Statement, 20-21)

Particulars	Amount (Rs Cr)
Cost of material consumed	13,868.67
Opening stock in trade 113.15	
Add: Purchase of stock in trade 1058.65	
Less: Closing stock in trade 25.75	1146.05
Employee benefits expenses 5198.82	
Add: payment to non- executive directors 8.29	5207.11
PRIME COST	20,126.07
Add: depreciation and amortization expenses	3,987.32
FACTORY COST	24,113.39
Add: opening stock of work in progress - Nil Less: closing stock of work in progress - 6.90	(6.90)
COST OF PRODUCTION	24,106.49
Add: opening finished goods - 3293.89	

Less: closing finished goods - 4663.71	(1,389.82)
COST OF GOODS SOLD	22,736.67
Add: other expenses	22747.32
COST OF SALES	45,483.99

Source: Author's own calculation based on the annual report, 20--21, Tata Steel (integrated), p 251.

From the above tables, the following information are abstracted:

Profit   = Rs 22403.24 Cr

Employee benefits   = Rs 5,207.11 Cr

Depreciation and amortization expenses   = Rs 3,987.32 Cr

Total Cost   (addition of the above two expenses)   = Rs 45,483.99 Cr

Contribution of human capital in profit is 430 % (i.e. 22403.24/5207.11*100) and that of capital assets is 562% (i.e.22,403.24/3987.32 *100). On the basis of contribution ratio, contributions made by human assets and fixed assets can be calculated as follows: Human assets - Rs 9,711.08 (430/992* 22,403.24), and capital assets Rs 12,692.15 (562/992*22,403.24).

Hence, distribution of profit among human capital and fixed assets is as follows:

A. Human assets = Rs 9,711.08 Cr

B. Fixed assets =   Rs 12,692.15 Cr

Applying the Gordon's Constant Growth Model:

Hc = 9,711.08/0.24-0.08 = Rs 60,694.25 Cr

Fixed assets = 12,693.67/0.10 = Rs 79,335.44 Cr

Note: ' r' in this case is 24 %, which is the employee benefit cost as a percentage of profit of Tata Steel (integrated), being the leader in the industry in India. In other words, the cost of employees may be considered as an industry average, Tata Steel being one of the industry leaders. 'g' has been considered as 8% in this paper.

Conclusion:

The capitalized value of human assets is Rs 60,694.25 Cr. Equivalent amount of goodwill will arise on the assets side. The capitalized value of human capital can be incorporated in the balance sheet by passing the following entry:

Goodwill A/c -------- Dr   60,712.75

   To, Human Capital A/c   60,712.75

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